



# **Stakeholder Advisory Group**

**Business Models  
Working Group Report**

**Oct 29, 2015**

# Business Models Working Group Participants

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**Andrew Barbeau**, President at The Accelerate Group

**Antonia Ornellas**, Public Sector Director at Elevate Energy

**Ben Shorofsky**, Delta Institute

**Charlie Coggeshall**, Clean Energy Collective

**Claire Tramm**, Dir Energy at Chicago Infrastructure Trust

**David South**, West Monroe Partners

**Deborah Stone**, Chief Sustainability Officer at Cook County

**Dimitra Apostolopoulou**, ComEd

**Faustina Del Rio**, VLV Development

**Faustina Roman**, Partner at VLV Development

**Jake Bronstein**, Smart Worlds Initiative Mgr. at Built Worlds

**Jan Gudell**, Elevate Energy

**Jeff Zethmayr**, Citizens Utility Board

**Jonathan Nieuwsma**, Vice President at Greener Evanston

**Kacie Peters**, MicroGrid Energy

**Kevin Dick**, Delta Institute

**Kristin Munsch**, Director of Policy at Chicago Utility Board

**Larry Doody**, Director at Renovate America

**Larry Kotewa**, Elevate Energy

**Laura Oakleaf**, Legislative Coordinator at Cook County

**Lawrence Schlueter**, Engineering Manager at Johnson Controls

**Lesley McCain**, Executive Director at Illinois Solar Energy Association

**Marcia Lochmann**, Dir of College Partnerships at Il. Green Economy Network

**Mark Barry**, Data Systems Manager at Chicago Public Schools

**Mark Raeder**, Consultant at New Grid Energy/Sun Edison

**Mat Elmore**, Sr. Solar Project Lead at Elevate Energy

**Melissa Malkin-Weber**, SelfHelp Credit Union

**Orijit Ghoshal**, Legal & Policy Advisor at Illinois Commerce Commission

**Patrick MacRoy**, Director, Regional Energy Programs at Elevate Energy

**Paul Augustine**, Manager, Energy & Utilities at West Monroe Partners

**Sarah Moskowitz**, Outreach Director at Chicago Utility Board

**Sarah Wochos**, Legislative Director at Environmental Law & Policy Center

**Suzanne Stelmasek**, Sr. Policy Analyst at Elevate Energy

**Tony Dover**, Energy Manager at Cook County

**Van Vincent**, CEO at VLV Development

**Vito Greco**, QA/QC Coordinator at Elevate Energy

**Walt Novash**, Johnson Controls, Inc.

**Will Kenworthy**, MicroGrid Energy

# Business Models Working Group Goals

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- Understand national best practices for community solar business models.
- Determine the most optimal and replicable models for Cook County.
- Analyze the characteristics and benefits of various models for each stakeholder.
- Analyze the barriers to community solar business models.
- Develop financial models for installation and pro forma for various business models.
- Develop a benefits assessment measurement rubric.

# Business Models Working Group Deliverables

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- Supported National Best Practices analysis by identifying business models and barriers.
- Identified likely business models for Cook County.
- Identified system characteristics for demonstration pilots.
- Developed a benefits assessment measurement rubric.
- Developed a pilot framework tool to support site selection.
- Business models and pilot framework will inform Impact Analysis in 2016.

# National Business Model Categories

	Utility Sponsored	Developer Sponsored	Special Entity Sponsored
<b>Participant Profile:</b>	<ul style="list-style-type: none"> <li>• Electric ratepayers</li> </ul>	<ul style="list-style-type: none"> <li>• Electric ratepayers</li> </ul>	<ul style="list-style-type: none"> <li>• Community investors</li> </ul>
<b>Participant Motive:</b>	<ul style="list-style-type: none"> <li>• Offset electricity usage</li> <li>• Support renewables</li> </ul>	<ul style="list-style-type: none"> <li>• Offset electricity usage</li> <li>• Support renewables</li> </ul>	<ul style="list-style-type: none"> <li>• Profit</li> <li>• Community development</li> <li>• Support renewables</li> <li>• Offset electricity usage</li> </ul>
<b>Benefit Structure:</b>	<ul style="list-style-type: none"> <li>• Virtual net metering</li> <li>• Bill credits</li> </ul>	<ul style="list-style-type: none"> <li>• Virtual net metering</li> <li>• Bill credits</li> <li>• Cash payments</li> </ul>	<ul style="list-style-type: none"> <li>• Virtual net metering</li> <li>• Bill credits</li> <li>• Cash payments</li> </ul>
<b>Strategy of Sponsor:</b>	<ul style="list-style-type: none"> <li>• Return on investment</li> <li>• Meet RPS requirements</li> <li>• Manage peak demand</li> <li>• Meet customer demand</li> </ul>	<ul style="list-style-type: none"> <li>• Profit</li> <li>• Support renewables</li> <li>• Mission-driven</li> </ul>	<ul style="list-style-type: none"> <li>• Offset electricity use</li> <li>• Support renewables</li> <li>• Mission-driven</li> <li>• Energy Security</li> <li>• Profit</li> </ul>
<b>Business Model Benefits:</b>	<ul style="list-style-type: none"> <li>• Economies-of-scale</li> <li>• Ease of financing</li> <li>• Access to resources</li> </ul>	<ul style="list-style-type: none"> <li>• Economies-of-scale</li> <li>• Ease of financing</li> <li>• Maximized incentives</li> <li>• Access to resources</li> <li>• Work around net metering</li> </ul>	<ul style="list-style-type: none"> <li>• Local ownership</li> <li>• Community development</li> <li>• Energy security</li> <li>• Profit</li> </ul>
<b>Barriers:</b>	<ul style="list-style-type: none"> <li>• Utility power generation rules</li> <li>• Virtual net metering</li> <li>• Ownership outside community</li> <li>• Barriers to tax incentives</li> </ul>	<ul style="list-style-type: none"> <li>• Potential SEC requirements</li> <li>• Virtual net metering</li> <li>• Ownership outside community</li> <li>• Policy environment</li> </ul>	<ul style="list-style-type: none"> <li>• Complex legal structure</li> <li>• Potential SEC requirements</li> <li>• May not qualify for incentives</li> <li>• Difficult to finance</li> <li>• Longer lead time</li> </ul>

# Barriers to Community Solar

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## Policy:

- Net Metering / Virtual Net Metering
- No rate structure established
- Deregulation
- SEC regulations

## Subscriber:

- Community solar is new
- Subscriber acquisition is more difficult
- Cost of entry/subscriber financing

## Financial:

- Investment Tax Credit: Access and Changes
- IPA ending
- Low rates in Illinois
- Financing
- Cash flow / Competitive revenue structure

# Primary System Characteristics

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- Primary characteristics where identified for building pilot frameworks.

## **Geography:**

- North Suburban
- South Suburban
- West Suburban
- North Chicago
- South Chicago
- West Chicago

## **Size:**

- 1-2 MW
- 500 - 1,000 kW
- 250 - 500 kW

## **Installation Type:**

- Roof-Mount
- Ground-Mount

## **Zoning:**

- Residential
- Commercial
- Industrial
- Vacant

## **Host Site Ownership:**

- Government Owned
- Privately Owned
- Utility Owned
- Nonprofit Owned

## **System Ownership:**

- Utility Owned
- Developer Owned
- Special Entity Owned
- Government Owned

## **Subscriber Type:**

- Residential (LMI/Non-LMI)
- Government
- Commercial (Sm,Med,Lg)
- Nonprofit

## **Subscriber Participation Model:**

- Purchase panels
- PPA
- Other

# Subscriber Benefits Assessment Rubric

<b>Developer benefits:</b>	<b>Weighting</b>	<b>Definition:</b>
• Return on investment	60%	10% IRR or greater
• Economies of scale	40%	Systems greater than 1 MW
<b>Subscriber benefits:</b>		
• Return on investment	40%	Less than 6 years payback when subscribers purchase Cash flow positive immediately (or quickly) with a PPA
• Easy transferability	30%	Contractually binding process for transfer of benefits and liabilities in model (assumes an impact in Subscriber Acquisition and O&M costs)
• Low up-front costs	30%	Pay-as-you-go or financing available; short time till monthly break-even.
<b>Utility benefits:</b>		
• Within an established microgrid	25%	The array exists within an established microgrid.
• Strategically supports substation placement	25%	TBD ComEd
• Requires no network upgrade	50%	No network upgrade costs required to utility to place the array online
<b>Community benefits:</b>		
• Community development	34%	Local contractors OR local siting
• Local ownership	33%	Subscribers own the panels OR system owner is within Cook County
• Energy security/ Resilience	33%	Battery system, strategically supports grid or peak demand.
<b>Model benefits:</b>		
• Financial soundness	35%	Realistic and fair assumptions in financial model regarding rate escalation incentives and SREC values.
• Scalable/Replicable	45%	The source of funding, incentives used and cost of capital is easily replicable.
• Community visibility	20%	Highly visible array within community; clear siting within residential or commercial areas.

# Financial Modelling

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- Use existing data where possible.
- Feedback or input from developers.
- We need to better understand customer acquisition and transactional costs.
- Reconvene financial model working group after site selection.

# Conclusions

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- Business models are determined primarily by the policy environment.
- Benefits to all stakeholders need to be clear and measurable.
- Subscribers are less likely to pay a premium. We need models that provide financial benefits to them.
- Bill crediting is critical for any model to work.
- Profitability and payback for all stakeholders is required.

